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A new species of Lembosia

WILLIAM TITUS HORNE

Lembosia Rolfsii sp. nov.

Spots 1 to 2 cm. long extending partly or entirely around the stem, or several confluent. Young spots and margins only slightly discolored, pale yellowish-brown, becoming darker and specked with dark brown, or spot black. Mycelium of dark brown thick-walled hyphae without septae, freely branching and anastomosing, with numerous short haustoria-like branches (hyphopodia), forming a loose or dense network on the surface. Peri-

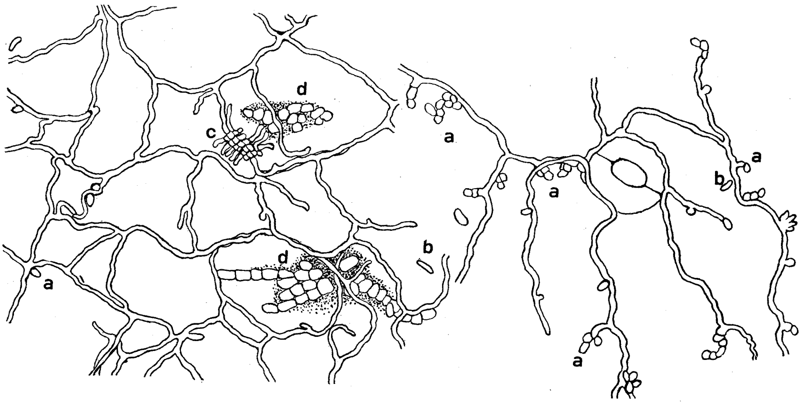


FIGURE 1. Two pieces of the mycelium on the cuticle near the margin of a spot, × 200. *a*, hyphopodia; *b*, detached conidia-like bodies; *c*, probably a young perithecium; *d*, structures of unknown significance lying below the cuticle.

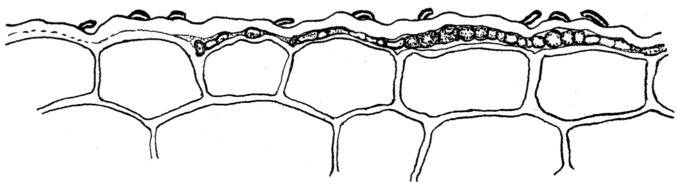


FIGURE 2. Transverse section 8 μ thick, mounted in balsam without stain, showing the position of the mycelium in hollows of the wavy cuticle and the position of the vesiculose mycelium-like growth between the cuticle and epidermal cells, × 300.

thecia irregularly scattered in the spots, straight or variously-curved, or forked, about 160 μ broad by 350 μ to 1 mm. long or more, continuous below with the mycelium, usually a little broader than high, black. Asci broadly clavate to elongated ovate, narrowed and often curved at base, at maturity thickly coated, 20–40 by 8–15 μ, the apex becoming produced into a sac-like extension 10 to 15 μ long which is collapsed and brown about the ruptured apex after the escape of the spores. Paraphyses abundant, somewhat irregular, the tips a little broader and clavate, separating with difficulty, 2–3 μ broad, not exceeding the expanded tips of the asci. Sporidia most commonly 6 in an ascus (probably 8 in uninjured asci), biseriate or irregularly crowded, 2-celled, somewhat pointed, constricted at the middle, slightly unsymmetrical and curved, hyaline with one very large oil drop in each cell, becoming smoky-brown and nearly black with one or two small oil-drops in each cell, and the darker spores mostly a little smaller, 10–16 by 4–5 μ.

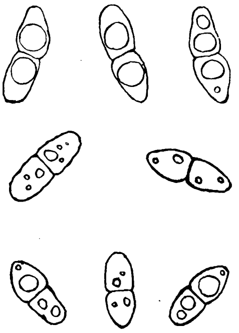
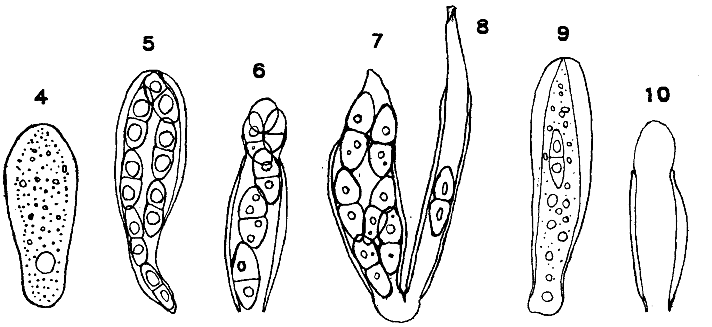


FIGURE 3. Spores, × 800; the three upper hyaline or nearly so, the five lower brown.

On green stems of *Vanilla planifolia* Andr., the cells of the host below the mycelium becoming gradually filled with brown granular material, and groups of brown vesicles appearing irregularly between the cuticle and epidermal cells and finally extending down into the intercellular spaces for a short distance. The significance of these structures was not made out. The superficial mycelium was not seen to penetrate below the cuticle in a large number of



FIGURES 4 to 10. Asci, × 800.

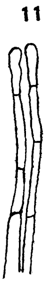


FIGURE 11. Paraphyses, × 800.

microtome sections examined. Browning of the tissue is usually slight and was not seen distinctly for a depth of more than 1 mm.

The material studied was received from P. H. Rolfs, of the U. S. Subtropical Laboratory at Miami, Fla., in February, 1904.

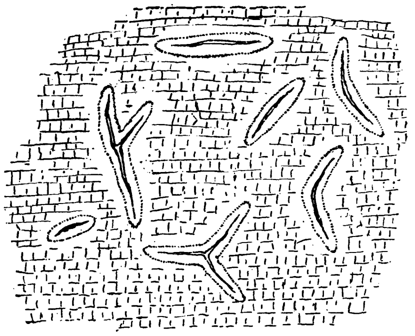


FIGURE 12. Part of spot with perithecia (partly diagrammatic), × about 10.

All attempts to make cultures from this material and from other lots kindly sent by Professor Rolfs failed, indicating that the species is probably a strict parasite.